

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002975**Date Inspected:** 10-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

**Production Monitoring Test Macro-Etch Samples**

The Quality Assurance Inspector performed a visual inspection of a set of production monitoring tests (PMT) macro etch samples, identified as DP-592-001/DP597-001. The PMT was welded during the night shift. All samples appeared to contain penetration greater than 80 percent. ABF representative Warren Buehler identified one sample that contained non compliant lack of fusion. The sample was ground and re-etched and found to be compliant by Caltrans Engineer Jim Merrill. All the data from the review was recorded in a tracking log and forwarded to Quality Assurance Task Leaders and Structural Materials Representatives. The Samples were digitally photographed and placed on the internal server for future review.

**77M Partial Tower Mock-ups**

The Quality Assurance Inspector performed a survey of the three 77M Partial Tower Mock-up assemblies.

**Longitudinal Stiffener to Skin Plate WT-101**

The Quality Assurance Inspector observed the partial joint penetration welding was completed the previous shift. ABF Representative Mike Williams stated that due to welding the stiffener was distorted 10 millimeters, measuring from the top off the stiffener to the skin plate. In actuality the cause was not distortion at all. The Quality Assurance Inspector observed the skewed angle during the fit-up process as illustrated in the digital

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photograph below taken on 6-4-2008. The other digital photograph taken on 6-10-2008 illustrates the approximate same skewed angle after welding.

## Diaphragm to Web Plate WT-125

The Quality Assurance Inspector observed that ZPMC completed the required non destructive testing and marked the weld acceptable. The Quality Assurance Inspector selected three areas to be cut for macro-etch samples.

## Diagonal Stiffener to Skin Plate WT-32

ABF Representative Mike Williams informed the Quality Assurance Inspector that a portion of the skin plate was accidentally cut off. A digital photograph below illustrates the discrepancy. After some discussion between the Quality Assurance Inspector and Mr. Williams, it was decided to select another macro sample.



## Summary of Conversations:

As stated in the contents of the above report.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Pat Lowry (916) 227-5719, who represents the Office of Structural Materials for your project.

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**Inspected By:** Bertlesman,Greg

Quality Assurance Inspector

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**Reviewed By:** Cuellar,Robert

QA Reviewer